



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/048,023	01/28/2002	Yasukazu Iwasaki	040302-0285	1241

22428 7590 07/07/2005

FOLEY AND LARDNER
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

WACHTEL, ALEXIS A

ART UNIT	PAPER NUMBER
----------	--------------

1764

DATE MAILED: 07/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/048,023

Applicant(s)

IWASAKI, YASUKAZU

Examiner

Alexis Wachtel

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1-28-02; 1-4-05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Detailed Action

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1-4 are rejected under 35 U.S.C. 102(a) as being anticipated by EP 0 973 219 A2.

With respect to claim 1, EP 0 973 219 A2 teaches a fuel reforming system comprising a fuel reformer (2) for generating a reformed gas containing the hydrogen by using a gas containing vapors of a gas fuel or a liquid fuel and the oxygen, mixer of vapors (6) of a gas fuel or a liquid fuel and the oxygen, mixer of vapors of a gas fuel or a liquid fuel and the oxygen; supplier (8) of vapors of a gas fuel or a liquid fuel into said fuel reformer through the mixer, supplier (10) of a gas containing the oxygen into said fuel reformer through the mixer, and controller (36) of first flow rate of the vapors the gas fuel or the liquid fuel supplied into said fuel reformer and of second flow rate of the gas containing the oxygen supplied into said fuel reformer, further comprising: detector (26) of the first flow rate of the vapors; detector (27) of the second flow rate of the gas (Examiner notes that detectors 26 and 27 are both used in conjunction with ECU (36) to calculate first flow rate and second flow rate); and temperature detector (32) of at least one of the vapors of the gas or the liquid fuel supplied into said

Art Unit: 1764

fuel reformer, the gas containing the oxygen supplied into said fuel reformer, the gas containing the oxygen supplied into said fuel reformer, and mixture of vapors of the gas fuel or the liquid fuel and the gas containing the oxygen, wherein a ratio of the first flow rate of vapors to the second flow rate of the gas is corrected depending on the detector, and the gas containing the oxygen is supplied depending on the output of said temperature detector, and the gas containing the oxygen is supplied depending on the corrected ratio (pp.14, [0092]).

With respect to claim 2, EP 0 973 219 A2 teaches that the flow rate of the gas fuel, the flow rate of the vapor of the liquid fuel, or the flow rate of the liquid fuel is corrected and supplied depending on the correction value of the ratio of the flow rate of the vapor of the gas fuel or the liquid fuel to the flow rate of the gas containing the oxygen (pp.14, [0092-0093]).

With respect to claim 3, EP 0 973 219 A2 teaches a fuel reforming method of a fuel reforming system, said fuel reforming system having a fuel reformer (2) for generating a reformed gas containing the hydrogen by using a gas containing vapors a gas fuel liquid fuel and the oxygen, mixer of vapors (6) of hydrogen, first supplier (11) of vapor of a gas fuel or a liquid fuel into said fuel reformer through the mixer, and second supplier (8) gas containing the oxygen into the mixer,

comprising: supplying the liquid fuel into the first supplier (11); detecting the temperature of the vapor of the gas fuel or the liquid fuel supplied into said fuel reformer; determining first correction coefficient ratio of first flow rate of the vapors of the gas fuel to second flow rate of the gas containing the oxygen according to the detected temperature; detecting the first flow rate of the vapors;

Art Unit: 1764

determining the second flow rate to be supplied the second supplier according to the detected first flow rate and the determined first correction coefficient (pp.14, [0092]); adjusting flow rate of the gas containing oxygen into said fuel reformer by controlling the second supplier according to the determined second flow rate (pp.14, [0092]).

With respect to claim 4, EP 0 973 219 A2 teaches a fuel reforming method wherein: prior to supplying the liquid fuel, determining a required flow rate of the liquid fuel to be supplied to the first supplier of vapors according to a memorized flow rate correction coefficient; and after adjusting flow rate of the gas, determining the fuel flow rate correction coefficient according to the determined first correction coefficient (pp.14, [0092-0093]).

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex Wachtel whose telephone number is 571-272-1455. The examiner can normally be reached on 10:30am to 6:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Glenn Caldarola, can be reached at (571)-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Glenn Caldarola
Supervisory Patent Examiner
Technology Center 1700